



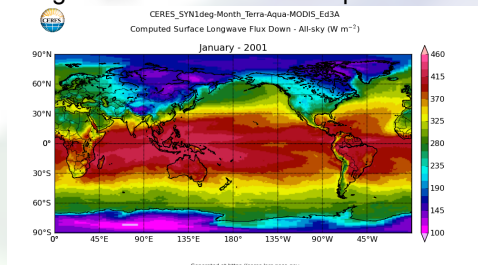
Distribution and Validation of CERES Irradiance Global Data Products Via Web Based Tools



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NASA's Clouds and the Earth's Radiant Energy System (CERES) project produces global, 1-degree gridded, 3 hourly estimates of TOA, atmospheric and surface radiative fluxes in the SYN1Deg and EBAF-surface data products.



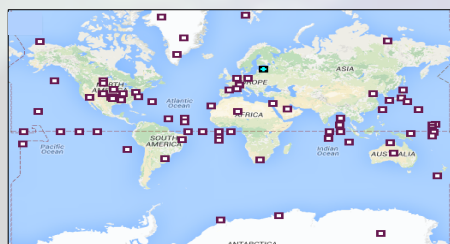
New web tools allow plotting, analyzing, and downloading single grid box values associated with surface validation sites:

SYN1Deg:

<https://ceres-tool.larc.nasa.gov/cave/jsp/CAVESelection.jsp>

EBAF-surface (Monthly Means)

<https://ceres-tool.larc.nasa.gov/cave/jsp/CAVESelection.jsp>



86 land and buoy sites available from the above web links.

Plot Style & Time Variables

Possible Parameters

Plot Type

☐ Time Series
☐ Scatter Plots

Temporal Resolution

☐ Monthly
☐ Daily
☐ 3-Hourly
☐ Hourly (Time Series only)

Time Range

Available Time Range: 3/2000 to 6/2015.

From: 03 - 2000 (MM-YYYY) To: 09 - 2015 (MM-YYYY)

Possible Parameters

☐ TOA Fluxes

☐ Surface Fluxes

☐ Auxiliary Data

☐ Shortwave Flux Up

☐ Shortwave Global Flux Up

☐ Shortwave Clear Radiance Flux

☐ Shortwave Diffuse Flux Down

☐ Total Shortwave Flux Down

☐ Longwave Global Flux Up

☐ Longwave Global Flux Down

☐ Cosmic Solar Zenith Angle

☐ 10 m Temperature

☐ Surface Pressure

☐ Surface Wind Speed

☐ Surface Wind Direction

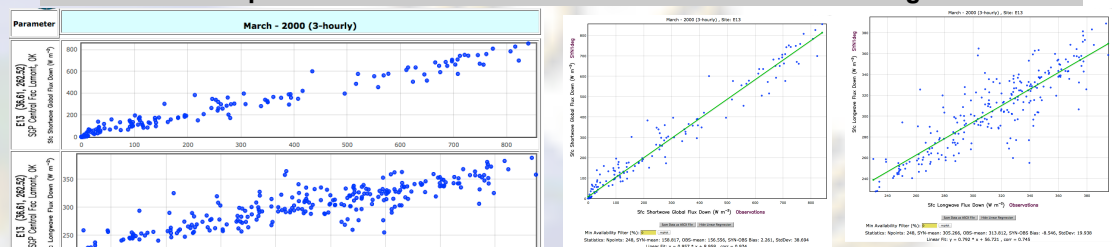
☐ Surface Relative Humidity

☐ Cloud Fraction DATA Day

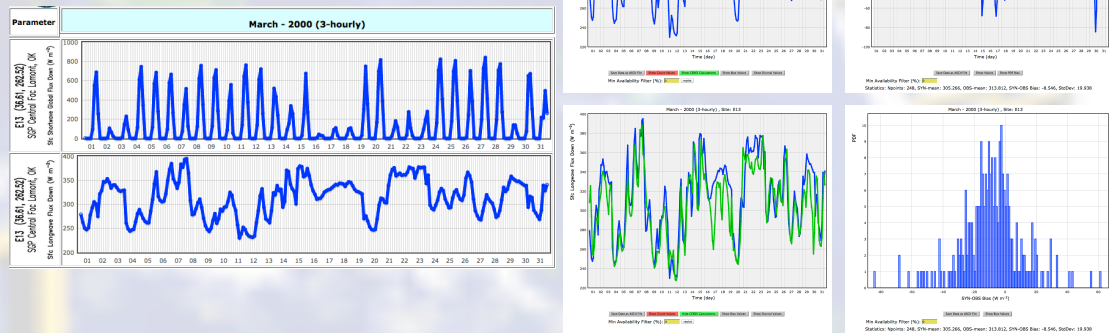
☐ Aerosol Optical Depth (550nm)

☐ Precipitation Water

Scatter Plot Comparisons of SW & LW Surface Flux E13 Obs vs SYN1deg Calculations

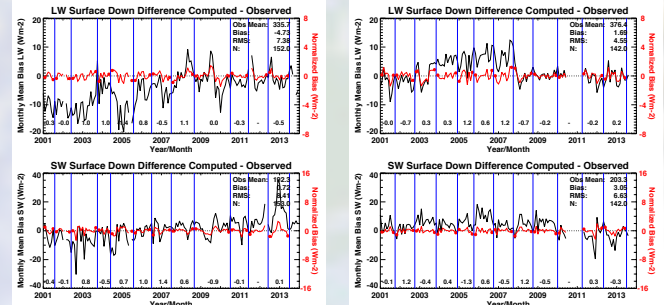


Time Series Plots include observation, observation compared to calculation, bias, and bias distribution.



Monthly Mean Error E13 & WHOI Stratus Buoy – Plotted With Instrument Swap Dates

Can one identify an error in model/ observation comparisons due to instrument swaps on land versus at sea? First, calculate monthly mean bias. Then normalize by series RMS and remove bias for each length of instrument set use. Finally difference first/last month. Results indicates no significant difference between land and buoy at monthly mean time scale.



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